

NOTICE OF
PREVENTION OF SIGNIFICANT DETERIORATION PRE-CONSTRUCTION
AIR QUALITY PERMIT APPLICATION AND DRAFT PERMIT
AND
MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY APPROVAL

The South Dakota Department of Environment and Natural Resources (DENR) received and reviewed the application for a Prevention of Significant Deterioration pre-construction air quality permit and the maximum achievable control technology proposal for the following applicant:

APPLICANT NAME: Hyperion Energy Center
 Hyperion Refining LLC

FACILITY LOCATION: 315th Street and 474th Avenue, Union County;
 Approximately 8 miles North of Elk Point, South Dakota
 Approximately 8 miles East of Vermillion, South Dakota

Hyperion Refining LLC (Hyperion) has proposed to construct and operate the Hyperion Energy Center. The Hyperion Energy Center will consist of a petroleum refinery and an integrated gasification combined cycle power plant. The proposed Hyperion Energy Center will process on average 400,000 barrels per day of crude oil. The purpose of a Prevention of Significant Deterioration pre-construction air quality permit is to ensure that emissions from a proposed facility will not degrade the air quality beyond increments allowed by state and federal air quality regulations and that the air quality will continue to fully comply with all National Ambient Air Quality Standards that have been established to protect public health and the environment.

The proposed Hyperion project will increase air emissions of particulate matter (dust), sulfur dioxide (SO₂), nitrogen oxide (NO_x), volatile organic compounds, carbon monoxide, sulfuric acid mist, hydrogen sulfide, reduced sulfur compounds, and total reduced sulfur. As one component of the Prevention of Significant Deterioration air quality permit application, Hyperion modeled the increased particulate matter, sulfur dioxide, nitrogen oxide, and carbon monoxide emissions along with the air emissions from existing nearby sources to ensure the National Ambient Air Quality Standards will continue to be maintained. The results of the modeling demonstrate that after the Hyperion Energy Center is operational, the federal National Ambient Air Quality Standards for particulate matter, sulfur dioxide, nitrogen dioxide, and carbon monoxide will continue to be maintained.

As long as the federal National Ambient Air Quality Standards are maintained, the Prevention of Significant Deterioration air quality permit program allows particulate matter, sulfur dioxide, and nitrogen oxide emissions to increase up to allowable increments in the surrounding area. The allowable increments, which are set forth in the federal air quality rules, maintain air emissions

below the National Ambient Air Standards, but still allow economic growth in the area. To ensure the project will not exceed the allowable increments, Hyperion modeled the increased particulate matter, sulfur dioxide, and nitrogen oxide air emissions. There is no increment for volatile organic compounds and carbon monoxide. The following table represents Hyperion's results from the modeling analyses and demonstrates that the Hyperion Energy Center will not consume all of the Prevention of Significant Deterioration increments in the surrounding area.

Pollutant (Duration)	Allowable Increment ¹	Modeling Results ¹	Percentage of Increment Consumed	Percentage of Increment Remaining
Dust (24-hour)	30	28.07	94%	6 %
Dust (Annual)	17	3.56	21%	79 %
SO ₂ (3-hour)	512	141.8	28%	72%
SO ₂ (24-hour)	91	49.81	55%	45%
SO ₂ (Annual)	20	5.78	29%	71%
NO _x (Annual)	25	3.2	13%	87%

¹ – Concentrations are measured in "micrograms per cubic meter".

The federal Prevention of Significant Deterioration air quality permit program also allows air emissions to increase up to allowable increments in Class I areas. There are two Class I areas in South Dakota; namely the federal Badlands National Park and Wind Cave National Park. Hyperion's project is greater than 300 kilometers from any Class I area. Therefore, no Class I area modeling analysis was required.

A case-by-case maximum achievable control technology standard determination has been conducted for the hazardous air pollutant emissions from the process heaters.

DENR's review of this facility indicates Hyperion can construct and operate in compliance with the state and federal air quality requirements established to protect public health and the environment. Therefore, DENR drafted a Prevention of Significant Deterioration air quality permit with conditions to ensure compliance with the state Air Pollution Control Act - SDCL 34A-1 and the federal Clean Air Act. Any person desiring to comment on DENR's draft permit must submit written comments to the address below. Comments must be received by DENR within 30 days of the publication date of this public notice and may be directed to the following mailing address:

Department of Environment and Natural Resources
Division of Environmental Services
523 East Capitol, Joe Foss Building
Pierre, SD 57501

Copies of DENR's draft permit, DENR's statement of basis, and Hyperion's application are available at the above address or by contacting Kyrik Rombough, Natural Resources Engineering Director, at the same address or by telephone at (605) 773-3151. Copies are also available on DENR's air quality website at <http://www.state.sd.us/denr/DES/AirQuality/aapubnot.htm>. Copies of the complete Hyperion air quality permit file are available at the above address or at:

1. DENR's Hyperion website - <http://www.state.sd.us/denr/hyperion.htm>; and
2. DENR's Geological Survey Program
Akeley-Lawrence Science Center, University of South Dakota
414 East Clark
Vermillion, SD 57069-2390

DENR will consider and address all comments submitted and issue a final permit decision within 30 days of the end of the public comment period. DENR will notify the applicant and each person who submitted written comments or requested notice of DENR's final permit decision, including notification of any changes to the permit based on the comments.

Any person desiring to contest the issuance of this permit and have a contested case hearing in front of the Board of Minerals and Environment must file a petition which complies with ARSD 74:09:01:01. This petition must be filed either within 30 days of this public notice or, if that person submits comments on DENR's draft permit pursuant to the paragraph above, within 30 days of receiving notice of DENR's final permit decision. If a petition for a contested case hearing is received, DENR will schedule this matter for a contested case hearing before the Board of Minerals and Environment. If no comments or objections are received within the specified 30 day periods, the draft permit becomes the final permit decision and the permit will be issued.

A handwritten signature in black ink, appearing to read 'S. M. Pirner', with a stylized flourish at the end.

Steven M Pirner, Secretary
Department of Environment and Natural Resources